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MEMORANDUM

TO: Nancy Riveland-Har
Remedial Project Manager
Cleanup Section 4, SFD-7-4

THROUGH: Rose Fong RF
ESAT Project Officer
Quality Assurance (QA) Office, PMD-3

FROM: Doug Lindelof
Data Review and QA Document Review Task Manager
Environmental Services Assistance Team (ESAT)

ESAT Contract No.: 68-W-01-028
Task Order No.: B01
Technical Direction No.: B0105128 Amendment 2

DATE: August 7, 2002

SUBJECT: Review of Analytical Data, Tier 3

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

SITE:	Omega Chem OU-2
SITE ACCOUNT NO.:	09 BC LA02
CERCLIS ID NO.:	CAD042245001
CASE NO.:	30499
SDG NO.:	Y0GW6
LABORATORY:	A4 Scientific, Inc.
ANALYSIS:	Volatiles
SAMPLES:	20 Water Samples
COLLECTION DATE:	May 21, 22, 23, and 24, 2002
REVIEWER:	Denise McCaffrey, ESAT/LDC

The comments and qualifications presented in this report have been reviewed by the EPA Task Order Project Officer (TOPO) for the ESAT Contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

Attachment
cc: Ray Flores, CLP PO USEPA Region 6
Steve Remaley, CLP PO USEPA Region 9
ESAT File

CLP PO: [ ] FYI [X] Attention [X] Action

SAMPLING ISSUES: [X] Yes [ ] No

B0105128-1736/30499/Y0GW6V.wpd

Data Validation Report

Case No.: 30499 SDG No.: Y0GW6
Site: Omega Chem OU-2
Laboratory: A4 Scientific, Inc.
Reviewer: Denise McCaffrey, ESAT/LDC
Date: August 7, 2002

I. Case Summary

SAMPLE INFORMATION:

Samples:	Y0GN0, Y0GN1, Y0GN2, Y0GN3, Y0GN4, Y0GN5, Y0GN6, Y0GN7, Y0GN8, Y0GN9, Y0GP0, Y0GP1, Y0GP2, Y0GP3, Y0GP4, Y0GP5, Y0GP6, Y0GP7, Y0GP8, and Y0GW6
Concentration and Matrix:	Low Level Water
Analysis:	Volatiles
SOW:	OLC03.2
Collection Date:	May 21, 22, 23, and 24, 2002
Sample Receipt Date:	April 4 and May 22, 23, and 25, 2002
Extraction Date:	Not Applicable
Analysis Date:	May 31 and June 1, 2, 3, and 4, 2002

FIELD QC:

Trip Blanks (TB):	Y0GN1, Y0GN4, Y0GN9, and Y0GP4
Field Blanks (FB):	Not Provided
Equipment Blanks (EB):	Not Provided
Background Samples (BG):	Not Provided
Field Duplicates (D1):	Y0GN5 and Y0GN6

METHOD BLANKS AND ASSOCIATED SAMPLES:

VBLKEI:	Y0GN2, Y0GN3DL, Y0GN4, Y0GP0, Y0GP3, Y0GN2MS, and Y0GN2MSD
VBLKEJ:	Y0GN0, Y0GN0DL, Y0GN1, and Y0GN3
VBLKEK:	Y0GN5, Y0GN5DL, Y0GN6, Y0GN6DL, Y0GN7, Y0GN7DL, Y0GN8, Y0GN9, and Y0GP3DL
VBLK13:	Y0GP4, Y0GP5DL, Y0GP6DL, Y0GP7DL, and Y0GW6
VBLKEL:	Y0GP1, Y0GP1DL, Y0GP2, and Y0GP2DL
VBLKEM:	Y0GP5, Y0GP6, Y0GP7, and Y0GP8
VBLKEN:	VHBLK01

TABLES:

1A:	Analytical Results with Qualifications
1B:	Data Qualifier Definitions for Organic Data Review
2:	Calibration Summary

MS- Matrix Spike, MSD - Matrix Spike Duplicate, DL - Dilution

CLP PO ACTION:

Quantitation limits for several analytes in sample Y0GN6 are qualified as rejected (R) due to very low Deuterated Monitoring Compound (DMC) recoveries.

CLP PO ATTENTION:

1) Detected results for methylene chloride and acetone in several samples are qualified as nondetected and estimated (U,J) due to contamination in the method blanks and trip blanks.

2) Detected results and quantitation limits for several analytes are qualified as estimated (J) due to calibration problems.

3) Detected results and quantitation limits for several analytes are qualified as estimated (J) due to low DMC recoveries.

SAMPLING ISSUES:

Detected results for acetone are qualified as nondetected and estimated (U,J) due to contamination in trip blanks Y0GN1, Y0GN4, and Y0GN9.

ADDITIONAL COMMENTS:

Tentatively identified compounds (TICs) detected in the samples are reported on Form 1LCFs. Other than laboratory artifacts/contaminants (retention time = 6.5 minutes), TICs were detected in samples Y0GN2 and Y0GW6 (see attached Form 1LCFs).

This report was prepared in accordance with the following documents:

- ESAT Region 9 Standard Operating Procedure 901, *Guidelines for Data Review of Contract Laboratory Program Analytical Services (CLPAS) Volatile and Semivolatile Data Packages*;
- *USEPA Contract Laboratory Program Statement of Work for Low Concentration Organics Analysis*, OLC03.2, December 2000; and
- *USEPA Contract Laboratory Program National Functional Guidelines for Low Concentration Organic Data Review*, June 2001.

II. Validation Summary

	Acceptable/Comment	
HOLDING TIMES	YES	
GC/MS TUNE/GC PERFORMANCE	YES	
INITIAL CALIBRATIONS	NO	D, E
CONTINUING CALIBRATIONS	NO	D, F
LABORATORY BLANKS	NO	C
FIELD BLANKS	NO	C
DEUTERATED MONITORING COMPOUNDS (DMCs)	NO	A, G
MATRIX SPIKE/DUPLICATES	NO	H
INTERNAL STANDARDS	YES	
COMPOUND IDENTIFICATION	YES	
COMPOUND QUANTITATION	YES	B, J
SYSTEM PERFORMANCE	YES	
FIELD DUPLICATE SAMPLE ANALYSIS	NO	I

III. Validity and Comments

A. Quantitation limits for the following analytes are qualified as rejected due to very low DMC recoveries (<10%), and are flagged "R" in Table 1A.

{2-Butanone-d5}
- Acetone and 2-butanone in sample Y0GN6

{Chloroform-d}
- Bromochloromethane in sample Y0GN6

DMC recoveries for the analytes listed above are shown below.

Sample	DMC	%Recovery	QC Limits
Y0GN6	2-Butanone-d5	2	42-171
	Chloroform-d	1	80-123

Since the results are nondetected, false negatives may exist.

Deuterated Monitoring Compounds (DMCs) are organic compounds which are similar to the target analytes in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. All samples are spiked with DMCs prior to purging. DMCs provide information about both the laboratory performance on individual samples and the possible effects of the sample matrix on the analytical results.

B. The following results, denoted with an "L" qualifier, are estimated and flagged "J" in Table 1A.

- All results below the contract required quantitation limits

Results below the contract required quantitation limits (CRQLs) are considered to be qualitatively acceptable, but quantitatively unreliable, due to the uncertainty in analytical precision near the limit of detection.

C. The following results are qualified as nondetected and estimated due to method blank and trip blank contamination, and are flagged "U,J" in Table 1A.

- Methylene chloride in samples Y0GN9, Y0GP3, Y0GN2MS, and Y0GN2MSD
- Acetone in samples Y0GN2, Y0GN2MS, Y0GN2MSD, Y0GN6, and Y0GN7

Methylene chloride was found in method blanks VBLKEI, VBLKEJ, VBLKEK, VBLKEM, and VBLKEN at concentrations of 0.6 μg/L, 0.3 μg/L, 0.4 μg/L, 0.2 μg/L, and 0.3 μg/L, respectively. Acetone was found in trip blanks Y0GN1, Y0GN4, and Y0GN9 at concentrations of 6 μg/L, 5 μg/L, and 4 μg/L, respectively. Results for the samples listed above are considered nondetected and estimated (U,J) and the quantitation limits have been increased according to the blank qualification rules presented below.

No positive results are reported unless the concentration of the compound in the sample exceeds 10 times the amount in any associated blank for the common laboratory contaminants or 5 times the amount for other compounds. If the sample result is greater than the CRQL, the quantitation limit is raised to the sample result (U,J). If the sample result is less than the CRQL, the result is reported as nondetected (U,J) at the CRQL.

Acetone concentrations detected in samples Y0GP1 and Y0GP3 are not qualified since they exceeded 10 times the amount in the associated trip blank (Y0GN9).

Methylene chloride has been commonly found as a contaminant in the field and in many laboratories. Although not detected in any of the associated blanks, the user should note that the methylene chloride detected in sample Y0GP4 may be an artifact.

Although toluene was detected in trip blanks Y0GN1, Y0GN4, Y0GN9, and Y0GP4 at concentrations of 0.3 μg/L, 0.4 μg/L, 0.4 μg/L, and 0.3 μg/L, respectively, no data are qualified because toluene was not detected in any of the samples associated with these blanks.

Although cis-1,3-dichloropropene was found in method blanks VBLKEI (0.4 μg/L) and VBLKEN (0.4 μg/L), 1,2,3-trichlorobenzene was found in method blanks VBLKEI (0.4 μg/L) and VBLKEM (0.5 μg/L), 1,2,4-trichlorobenzene was found in method blank VBLKEM (0.4 μg/L), and trans-1,3-dichloropropene was found in method blank VBLKEN (0.3 μg/L), no data are qualified because these analytes were not detected in any of the samples associated with the method blanks.

A laboratory method blank is laboratory reagent water analyzed with all reagents, DMCs, and internal standards and carried through the same sample preparation and analytical procedures as the field samples. The laboratory method blank is used to determine the level of contamination introduced by the laboratory during extraction and analysis.

A trip blank is laboratory reagent water which is shipped from the laboratory to the field with the empty sample containers and back to the laboratory with the filled sample containers. A trip blank is intended to detect contaminants introduced during the transport of the samples to the laboratory, although any laboratory introduced contamination will also be present. Contaminants that are found in the trip blank which are absent in the laboratory blank could be indicative of a problem in transportation, storage, the bottle preparation procedure, or other indeterminate error.

D. Detected results and quantitation limits for the following analytes are qualified as estimated due to low relative response factors (RRFs) in the initial and continuing calibrations, and are flagged "J" in Table 1A.

- Acetone in all samples and blanks
- 2-Butanone in samplesYOGN0, Y0GN1, Y0GN3, Y0GP1, Y0GP2, Y0GP5, Y0GP6, Y0GP7, and Y0GP8, storage blank VHBLK01, and method blanks VBLKEJ, VBLKEL, and VBLKEM

Average RRFs below the 0.05 validation criterion were observed for the analytes listed above in the initial calibration performed on May 22, 2002 (Table 2). RRFs below the 0.05 validation criterion were observed for the analytes listed above in the continuing calibrations performed on May 31, June 1, 2, 3, 4, and 5, 2002 (Table 2).

Detected results for the analytes listed above should be considered as the minimum concentrations at which these analytes are present in the samples. Where the results are nondetected, false negatives may exist.

It should be noted that the results for acetone in sample Y0GN6 were previously rejected. Please refer to Comment A.

The DMCs 2-butanone-d5 and 2-hexanone-d5 also had RRFs below the 0.05 validation criterion in the initial and continuing calibrations (Table 2). Quantitation of the analytes associated with these DMCs may have been affected by the low RRFs. See Comments A and G for a complete listing of sample data qualified by DMC results outside of recovery criteria.

The RRF evaluates instrument sensitivity and is used in the quantitation of target analytes.

E. Detected results and quantitation limits for the following analytes are qualified as estimated due to large relative standard deviations (RSDs) in the initial calibrations, and are flagged "J" in Table 1A.

- Acetone, methyl acetate, styrene, isopropylbenzene, and 1,2-dibromo-3-chloropropane in samples Y0GP4 and Y0GW6 and method blank VBLK13
- 1,2,3-trichlorobenzene in all samples and blanks

Percent RSDs exceeding the ≤30.0% validation criterion were observed for the analytes listed above in the initial calibrations performed on May 22 and 26, 2002 (Table 2).

The DMC 1,2-dichlorobenzene-d4 also had a RSD outside the ≤30.0% validation criterion in the initial calibration (Table 2). Quantitation of the analytes associated with this DMC may have been affected by the RSD out of QC limits. See Comments A and G for a complete listing of sample data qualified by DMC results outside of recovery criteria.

The initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of the analytical sequence and of producing a linear calibration curve.

F. Detected results and quantitation limits for the following analytes are qualified as estimated due to large percent differences (%Ds) in the continuing calibrations, and are flagged "J" in Table 1A.

- Benzene, 1,2-dichloropropane, and 2-hexanone in samples Y0GP4 and Y0GW6 and method blank VBLK13
- 4-Methyl-2-pentanone in samples Y0GP4 and Y0GW6, storage blank VHBLK01, and method blanks VBLK13 and VBLKEN
- 1,2,3-Trichlorobenzene in samples Y0GN5, Y0GN6, Y0GN7, Y0GN8, Y0GN9, Y0GP4, Y0GP5, Y0GP6, Y0GP7, Y0GP8, and Y0GW6, storage blank VHBLK01, and method blanks VBLK13, VBLKEK, VBLKEM, and VBLKEN
- Methyl tert-butyl ether in samples Y0GN2, Y0GN2MS, Y0GN2MSD, Y0GN4, Y0GN5, Y0GN6, Y0GN7, Y0GN8, Y0GN9, Y0GP0, and Y0GP3, storage blank VHBLK01, and method blanks VBLKEI, VBLKEK, and VBLKEN
- 1,2-Dibromoethane in samples Y0GN2, Y0GN2MS, Y0GN2MSD, Y0GN4, Y0GP0, and Y0GP3 and method blank VBLKEI
- 1,2-Dibromo-3-chloropropane in samples Y0GN2, Y0GN2MS, Y0GN2MSD, Y0GN4, Y0GP0, Y0GP1, Y0GP2, Y0GP3, Y0GP5, Y0GP6, Y0GP7, and Y0GP8 and method blanks VBLKEI, VBLKEL, and VBLKEM
- Cyclohexane in samples Y0GN0, Y0GN1, Y0GN3, Y0GP1 and Y0GP2 and method blanks VBLKEJ, and VBLKEL

- Tetrachloroethene in samples Y0GN5, Y0GN6, Y0GN7, Y0GN8, and Y0GN9 and method blank VBLKEK
- Chloromethane and acetone in samples Y0GP1 and Y0GP2 and method blank VBLKEL
- 2-Butanone in samples Y0GP1, Y0GP2, Y0GP5, Y0GP6, Y0GP7, and Y0GP8, storage blank VHBLK01, and method blanks VBLKEL, VBLKEM, and VBLKEN
- 1,2,4-Trichlorobenzene in samples Y0GP5, Y0GP6, Y0GP7, and Y0GP8 and method blank VBLKEM

Percent differences exceeding the ±30.0% validation criterion were observed for the analytes listed above in the continuing calibrations performed on May 31, June 1, 2, 3, 4, and 5, 2002 (Table 2).

The DMCs vinyl chloride-d3, chloroethane-d5, 1,1-dichloroethene-d2, benzene-d6, 1,2-dichloropropane-d6, toluene d8, and 2-hexanone-d5 also had %Ds outside the ±30.0% validation criterion in the continuing calibrations (Table 2). Quantitation of the analytes associated with these DMCs may have been affected by the %Ds out of QC limits. See Comments A and G for a complete listing of sample data qualified by DMC results outside of recovery criteria.

The continuing calibration checks the instrument performance daily and produces the relative response factors (RRFs) for target analytes that are used for quantitation.

G. Detected results and quantitation limits for the following analytes are qualified as estimated due to DMC recoveries outside QC limits, and are flagged "J" in Table 1A.

{Toluene-d8}
- Trichloroethene, toluene, tetrachloroethene, ethylbenzene, xylenes, styrene, and isppropylbenzene in sample Y0GW6

{1,1-Dichloroethene-d2}
- Trans-1,2-dichloroethene and cis-1,2-dichloroethene in sample Y0GP2

{Chloroform-d}
- 1,1-Dichloroethane, bromochloromethane, and chloroform in samples Y0GP2 and Y0GP8
- 1,1-Dichloroethane and chloroform in sample Y0GN6

{1,2-Dichloroethane-d4}
- Trichlorofluoromethane, 1,1-dichloroethene, 1,1,2-trichloro-1,2,2-trifluoroethane, methyl acetate, methylene chloride, methyl-tert-butyl ether, 1,1,1-trichloroethane, carbon tetrachloride, and 1,2-dichloroethane in sample Y0GP8

{trans-1,3-Dichloropropene-d4}
- cis-1,3-Dichloropropene, trans-1,3-dichloropropene, and 1,1,2-trichloroethane in sample Y0GP8

DMC recoveries outside QC limits for the analytes listed above are shown below.

Sample	DMC	%Recovery	QC Limits
Y0GW6	Toluene-d8	76	77-120
Y0GN6	Chloroform-d	1	80-123
Y0GP2	1,1-Dichloroethene-d2	64	65-130
	Chloroform-d	74	80-123
Y0GP8	Chloroform-d	78	80-123
	1,2-Dichloroethane-d4	76	78-129
	trans-1,3-Dichloropropene-d4	78	80-128

Detected results for the above listed analytes may be biased low. Where the results are nondetected, false negatives may exist.

H. The matrix spike duplicate recoveries and relative percent differences (RPDs) for several analytes in QC samples Y0GN2MS and Y0GN2MSD did not meet the criteria for accuracy and precision specified in the SOW. Percent recoveries and RPDs for these analytes are presented below.

	Y0GN2MSD		QC Limits	
Analyte	%Recovery	RPD	RPD	%Recovery
1,1-Dichloroethene	146	---	---	61-145
Benzene	144	13	≤11	76-127
Trichloroethene	132	16	≤14	71-120
Toluene	138	---	---	76-125
Chlorobenzene	138	---	---	75-130

Results obtained may indicate poor laboratory technique or matrix effects which may interfere with accurate analysis. The effect on data quality is not known.

Matrix spike sample analysis provides information about the effect of the sample matrix on sample preparation and analysis.

I. In the analysis of the field duplicate pairs, the following outliers were obtained for the analytes listed below.

	Y0GN5 (D1)	Y0GN6 (D1)	
Analyte	Conc. µg/L	Conc. µg/L	RPD (<25%)
1,1,2-Trichloro-1,2,2-trifluoroethane	1200	920	26
Bromodichloromethane	0.5U	0.2L	N/A

A relative percent differences (RPD) value is not calculated and is presented above as "N/A" when an analyte is detected in a sample at below the CRQL but is nondetected (U) at the CRQL in the field duplicate sample. The effect on data quality is not known.

A RPD of 26% was obtained for 1,1,2-trichloro-1,2,2-trifluoroethane in the analysis of field duplicate pair Y0GN5 and Y0GN6. The effect on data quality is not known.

The analysis of field duplicate samples is a measure of both field and analytical precision. The imprecision in the results of the analysis of the field duplicate pair may be due to the sample matrix, method defects, or poor sampling or analysis techniques.

J. Samples Y0GN0,Y0GP5, and Y0GP7 were analyzed at 5-fold, 10-fold, and 40-fold dilutions, respectively, due to the high levels of tetrachloroethene. Results for tetrachloroethene are reported from the diluted samples in Table 1A; results for all other analytes are reported from the undiluted samples.

Sample Y0GN3 was analyzed at a 80-fold dilution due to the high levels of trichlorofluoromethane, 1,1-dichloroethene, 1,1,2-trichloro-1,2,2-trifluoroethane, trichloroethene, and tetrachloroethene. Results for trichlorofluoromethane, 1,1-dichloroethene, 1,1,2-trichloro-1,2,2-trifluoroethane, trichloroethene, and tetrachloroethene are reported from the diluted sample in Table 1A; results for all other analytes are reported from the undiluted sample.

Samples Y0GN5 and Y0GN6 were analyzed at 100-fold dilutions due to the high levels of trichlorofluoromethane, 1,1-dichloroethene, 1,1,2-trichloro-1,2,2-trifluoroethane, chloroform, trichloroethene, and tetrachloroethene. Results for trichlorofluoromethane, 1,1-dichloroethene, 1,1,2-trichloro-1,2,2-trifluoroethane, chloroform, trichloroethene, and tetrachloroethene are reported from the diluted samples in Table 1A; results for all other analytes are reported from the undiluted samples.

Sample Y0GN7 was analyzed at a 10-fold dilution due to the high level of trichloroethene. The result for trichloroethene is reported from the diluted sample in Table 1A; results for all other analytes are reported from the undiluted sample.

Samples Y0GP1 and Y0GP3 were analyzed at 4-fold and 10-fold dilutions, respectively, due to the high levels of acetone. Results for acetone are reported from the diluted samples in Table 1A; results for all other analytes are reported from the undiluted samples.

Sample Y0GP2 was analyzed at a 40-fold dilution due to the high levels of trichloroethene and tetrachloroethene. Results for trichloroethene and tetrachloroethene are reported from the diluted sample in Table 1A; results for all other analytes are reported from the undiluted sample.

ANALYTICAL RESULTS
Tier 3 Table 1A

Case No.: 30499 SDG No.: Y0GW6
Site: OMEGA RECOVERY SERV.
Lab: A4 SCIENTIFIC, INC.
Reviewer: DENISE MCCAFFREY, ESAT/LDC
Date: 08/07/2002

QUALIFIED DATA
Concentration in ug/L

Analysis Type: Low Level Water Samples
For Volatiles

Station Location:	GW202-MW07A-0041			GW202-MW07A-2001			GW202-MW03A-0042			GW202-MW04A-0047			GW202-MW04B-2002			GW202-MW04B-1075			GW202-MW04B-0075		
Sample ID:	Y0GN0			Y0GN1 TB			Y0GN2			Y0GN3			Y0GN4 TB			Y0GN5 D1			Y0GN6 D1		
Collection Date:	05/21/2002			05/21/2002			05/21/2002			05/21/2002			05/22/2002			05/22/2002			05/22/2002		
Dilution Factor:	1.0			1.0			1.0			1.0			1.0			1.0			1.0		
Volatile Compound	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
Dichlorodifluoromethane	0.5U			0.5U			0.5U			0.5U			0.5U			2			2		
Chloromethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Vinyl Chloride	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Bromomethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Chloroethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Trichlorofluoromethane	0.2L	J	B	0.5U			0.5U			97		J	0.5U			400		J	310		J
1,1-Dichloroethene	0.5U			0.5U			0.5U			180		J	0.5U			1300		J	1100		J
1,1,2-Trichloro-1,2,2-trifluoroethane	3			0.5U			0.5U			290		J	0.5U			1200		J	920		J
Acetone	5U	J	D	6	J	D	31U	J	CD	5U	J	D	5L	J	BD	5U	JD		3U	R	ACD
Carbon Disulfide	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Methyl Acetate	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Methylene Chloride	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
trans-1,2-Dichloroethene	0.5U			0.5U			0.5U			0.5U			0.5U			0.8			0.8		
Methyl tert-Butyl Ether	0.5U			0.5U			0.5U	J	F	0.5U			0.5U	J	F	4	J	F	4	J	F
1,1-Dichloroethane	0.5U			0.5U			0.5U			0.6			0.5U			4			4	J	G
cis-1,2-Dichloroethene	2			0.5U			0.5U			7			0.5U			12			12		
2-Butanone	5U	J	D	5U	J	D	5U			5U	J	D	5U			5U			5U	R	A
Bromochloromethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U	R	A
Chloroform	0.4L	J	B	0.5U			0.5U			9			0.5U			120		J	120	J	GJ
1,1,1-Trichloroethane	0.5U			0.5U			0.5U			0.7			0.5U			7			7		
Cyclohexane	0.5U	J	F	0.5U	J	F	0.5U			0.5U	J	F	0.5U			0.5U			0.5U		
Carbon Tetrachloride	0.5U			0.5U			0.5U			0.5U			0.5U			0.3L	J	B	0.3L	J	B
Benzene	0.5U			0.5U			0.5U			0.5L	J	B	0.5U			4			4		
1,2-Dichloroethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Trichloroethene	20			0.5U			0.5U			440		J	0.5U			480		J	480		J
Methylcyclohexane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
1,2-Dichloropropane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Bromodichloromethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		I	0.2L	J	BI
cis-1,3-Dichloropropene	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
4-Methyl-2-pentanone	5U			5U			5U			5U			5U			5U			5U		
Toluene	0.5U			0.3L	J	B	0.5U			0.5U			0.4L	J	B	0.5U			0.5U		
trans-1,3-Dichloropropene	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
1,1,2-Trichloroethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.8			0.6		
Tetrachloroethene	47		J	0.5U			0.2L	J	B	260		J	0.5U			950	J	FJ	900	J	FJ
2-Hexanone	5U			5U			5U			5U			5U			5U			5U		
Dibromochloromethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
1,2-Dibromoethane	0.5U			0.5U			0.5U	J	F	0.5U			0.5U	J	F	0.5U			0.5U		

ANALYTICAL RESULTS
Tier 3 Table 1A

Case No.: 30499 SDG No.: Y0GW6
Site: OMEGA RECOVERY SERV.
Lab: A4 SCIENTIFIC, INC.
Reviewer: DENISE MCCAFFREY, ESAT/LDC
Date: 08/07/2002

QUALIFIED DATA
Concentration in ug/L

Analysis Type: Low Level Water Samples
For Volatiles

Station Location:	GW202-MW07A-0041			GW202-MW07A-2001			GW202-MW03A-0042			GW202-MW04A-0047			GW202-MW04B-2002			GW202-MW04B-1075			GW202-MW04B-0075		
Sample ID:	Y0GN0			Y0GN1 TB			Y0GN2			Y0GN3			Y0GN4 TB			Y0GN5 D1			Y0GN6 D1		
Collection Date:	05/21/2002			05/21/2002			05/21/2002			05/21/2002			05/22/2002			05/22/2002			05/22/2002		
Dilution Factor:	1.0			1.0			1.0			1.0			1.0			1.0			1.0		
Volatile Compound	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
Chlorobenzene	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Ethylbenzene	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Xylenes (total)	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Styrene	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Bromoform	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Isopropylbenzene	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
1,1,2,2-Tetrachloroethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
1,3-Dichlorobenzene	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
1,4-Dichlorobenzene	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
1,2-Dichlorobenzene	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
1,2-Dibromo-3-chloropropane	0.5U			0.5U			0.5U	J	F	0.5U			0.5U	J	F	0.5U			0.5U		
1,2,4-Trichlorobenzene	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
1,2,3-Trichlorobenzene	0.5U	J	E	0.5U	J	E	0.5U	J	E	0.5U	J	E	0.5U	J	E	0.5U	J	EF	0.5U	J	EF

Val - Validity. Refer to Data Qualifiers in Table 1B.
Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.
CRQL - Contract Required Quantitation Limit, N/A - Not Applicable, NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank, TB - Trip Blank, BG - Background Sample
PE - Performance Evaluation Sample

ANALYTICAL RESULTS
Tier 3 Table 1A

Case No.: 30499 SDG No.: Y0GW6
Site: OMEGA RECOVERY SERV.
Lab: A4 SCIENTIFIC, INC.
Reviewer: DENISE MCCAFFREY, ESAT/LDC
Date: 08/07/2002

QUALIFIED DATA
Concentration in ug/L

Analysis Type: Low Level Water Samples For Volatiles

Station Location:	GW202-MW04C-0094			GW202-MW11A-0045			GW202-MW08A-2003			GW202-MW08B-0070			GW202-MW08C-0087			GW202-MW08A-0040			GW202-MW08D-0116		
Sample ID:	Y0GN7			Y0GN8			Y0GN9 TB			Y0GP0			Y0GP1			Y0GP2			Y0GP3		
Collection Date:	05/22/2002			05/22/2002			05/23/2002			05/23/2002			05/23/2002			05/23/2002			05/23/2002		
Dilution Factor:	1.0			1.0			1.0			1.0			1.0			1.0			1.0		
Volatile Compound	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
Dichlorodifluoromethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Chloromethane	0.5U			0.5U			0.5U			0.5U			0.5U	J	F	0.5U	J	F	0.5U		
Vinyl Chloride	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Bromomethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Chloroethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Trichlorofluoromethane	3			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
1,1-Dichloroethene	2			0.5U			0.5U			3			0.5U			4			0.5U		
1,1,2-Trichloro-1,2,2-trifluoroethane	9			0.4L	J	B	0.5U			0.2L	J	B	0.2L	J	B	0.5U			0.5U		
Acetone	3U	J	CD	5U	J	D	4L	J	BD	5U	J	D	170	J	DFJ	5U	J	DF	610	J	DJ
Carbon Disulfide	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Methyl Acetate	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Methylene Chloride	0.5U			0.5U			0.5U	J	C	0.5U			0.5U			0.5U			0.5U	J	C
trans-1,2-Dichloroethene	0.5U			0.5U			0.5U			0.5U			0.5U			0.2L	J	BG	0.5U		
Methyl tert-Butyl Ether	0.5U	J	F	0.6	J	F	0.5U	J	F	0.5U	J	F	0.5U			0.2L	J	B	0.5U	J	F
1,1-Dichloroethane	0.5U			0.5L	J	B	0.5U			0.5U			0.5U			0.5U	J	G	0.5U		
cis-1,2-Dichloroethene	0.6			3			0.5U			1			2			22	J	G	0.5U		
2-Butanone	5U			5U			5U			5U			5U	J	DF	5U	J	DF	5U		
Bromochloromethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U	J	G	0.5U		
Chloroform	0.9			1			0.5U			0.4L	J	B	0.3L	J	B	0.4L	J	BG	0.5		
1,1,1-Trichloroethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Cyclohexane	0.5U			0.5U			0.5U			0.5U			0.5U	J	F	0.5U	J	F	0.5U		
Carbon Tetrachloride	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Benzene	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
1,2-Dichloroethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Trichloroethene	64		J	2			0.5U			2			3			96		J	15		
Methylcyclohexane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
1,2-Dichloropropane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Bromodichloromethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.2L	J	B	0.5U		
cis-1,3-Dichloropropene	0.5U			0.5U			0.5U			0.5U			0.5U			0.4L	J	B	0.5U		
4-Methyl-2-pentanone	5U			5U			5U			5U			5U			0.9L	J	B	5U		
Toluene	0.5U			0.5U			0.4L	J	B	0.5U			0.5U			0.5U			0.5U		
trans-1,3-Dichloropropene	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
1,1,2-Trichloroethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Tetrachloroethene	10	J	F	9	J	F	0.5U	J	F	9			11			430		J	0.7		
2-Hexanone	5U			5U			5U			5U			5U			5U			5U		
Dibromochloromethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.6			0.5U		
1,2-Dibromoethane	0.5U			0.5U			0.5U			0.5U	J	F	0.5U			0.5U			0.5U	J	F

ANALYTICAL RESULTS
Tier 3 Table 1A

Case No.: 30499 SDG No.: Y0GW6
Site: OMEGA RECOVERY SERV.
Lab: A4 SCIENTIFIC, INC.
Reviewer: DENISE MCCAFFREY, ESAT/LDC
Date: 08/07/2002

QUALIFIED DATA
Concentration in ug/L

Analysis Type: Low Level Water Samples
For Volatiles

Station Location:	GW202-MW04C-0094			GW202-MW11A-0045			GW202-MW08A-2003			GW202-MW08B-0070			GW202-MW08C-0087			GW202-MW08A-0040			GW202-MW08D-0116		
Sample ID:	Y0GN7			Y0GN8			Y0GN9 TB			Y0GP0			Y0GP1			Y0GP2			Y0GP3		
Collection Date:	05/22/2002			05/22/2002			05/23/2002			05/23/2002			05/23/2002			05/23/2002			05/23/2002		
Dilution Factor:	1.0			1.0			1.0			1.0			1.0			1.0			1.0		
Volatile Compound	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
Chlorobenzene	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Ethylbenzene	0.5U			0.5U			0.5U			0.5U			0.21	J	B	0.5U			0.5U		
Xylenes (total)	0.5U			0.5U			0.5U			0.5U			0.8			0.5U			0.7		
Styrene	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Bromoform	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Isopropylbenzene	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
1,1,2,2-Tetrachloroethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
1,3-Dichlorobenzene	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
1,4-Dichlorobenzene	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
1,2-Dichlorobenzene	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
1,2-Dibromo-3-chloropropane	0.5U			0.5U			0.5U			0.5U	J	F	0.5U	J	F	0.5U	J	F	0.5U	J	F
1,2,4-Trichlorobenzene	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
1,2,3-Trichlorobenzene	0.5U	J	EF	0.5U	J	EF	0.5U	J	EF	0.5U	J	E	0.5U	J	E	0.5U	J	E	0.5U	J	E

Val - Validity. Refer to Data Qualifiers in Table 1B.
Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.
CRQL - Contract Required Quantitation Limit, N/A - Not Applicable, NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank, TB - Trip Blank, BG - Background Sample
PE - Performance Evaluation Sample

ANALYTICAL RESULTS
Tier 3 Table 1A

Case No.: 30499 SDG No.: Y0GW6
Site: OMEGA RECOVERY SERV.
Lab: A4 SCIENTIFIC, INC
Reviewer: DENISE MCCAFFREY, ESAT/LDC
Date: 08/07/2002

QUALIFIED DATA
Concentration in ug/L

Analysis Type: Low Level Water Samples
For Volatiles

Station Location:	GW202-MW09A-2004			GW202-MW09A-0032			GW202-MW09B-0054			GW202-MW06A-0042			GW202-MW10A-0057						GW202-MW03A-0042		
Sample ID:	Y0GP4	TB		Y0GP5			Y0GP6			Y0GP7			Y0GP8			Y0GW6		PE	Y0GN2MS		
Collection Date:	05/24/2002			05/24/2002			05/24/2002			05/24/2002			05/24/2002						05/21/2002		
Dilution Factor:	1.0			1.0			1.0			1.0			1.0			1.0			1.0		
Volatile Compound	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
Dichlorodifluoromethane	0.5U			0.5U			0.5U			0.5U			0.5U			7			0.5U		
Chloromethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Vinyl Chloride	0.5U			0.5U			0.5U			0.5U			0.5U			14			0.5U		
Bromomethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Chloroethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Trichlorofluoromethane	0.5U			0.5U			0.5U			0.5U			3	J	G	0.5U			0.5U		
1,1-Dichloroethene	0.5U			2			0.5U			4			4	J	G	5			7		
1,1,2-Trichloro-1,2,2-trifluoroethane	0.5U			0.5U			0.3L	J	B	0.6			6	J	G	0.5U			0.5U		
Acetone	5U	J	DE	5U	J	D	5U	J	D	5U	J	D	5U	J	D	5U	J	DE	35U	J	CD
Carbon Disulfide	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Methyl Acetate	0.5U	J	E	0.5U			0.5U			0.5U			0.5U	J	G	0.5U	J	E	0.5U		
Methylene Chloride	0.2L	J	B	0.5U			0.5U			0.5U			0.5U	J	G	0.5U			3U	J	C
trans-1,2-Dichloroethene	0.5U			0.5U			0.5U			0.5U			0.5U			2			0.5U		
Methyl tert-Butyl Ether	0.5U			1			2			0.5U			0.5U	J	G	0.5U			0.5U	J	F
1,1-Dichloroethane	0.5U			0.5U			0.5U			0.2L	J	B	0.2L	J	BG	2			0.5U		
cis-1,2-Dichloroethene	0.5U			0.7			0.5U			0.3L	J	B	1			0.5U			0.5U		
2-Butanone	5U			5U	J	DF	5U	J	DF	5U	J	DF	5U	J	DF	5U			5U		
Bromochloromethane	0.5U			0.5U			0.5U			0.5U			0.5U	J	G	0.5U			0.5U		
Chloroform	0.5U			0.3L	J	B	0.3L	J	B	1			0.4L	J	BG	8			0.5U		
1,1,1-Trichloroethane	0.5U			0.5U			0.5U			0.5U			0.5U	J	G	2			0.5U		
Cyclohexane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Carbon Tetrachloride	0.5U			0.5U			0.5U			0.5U			0.5U	J	G	0.5U			0.5U		
Benzene	0.5U	J	F	0.5U			0.5U			0.5U			0.5U			0.5U	J	F	6		H
1,2-Dichloroethane	0.5U			0.5U			0.5U			0.5U			0.5U	J	G	0.5U			0.5U		
Trichloroethene	0.5U			7			2			4			20			3	J	G	6		H
Methylcyclohexane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
1,2-Dichloropropane	0.5U	J	F	0.5U			0.5U			0.5U			0.5U			7	J	F	0.5U		
Bromodichloromethane	0.5U			0.5U			0.5U			0.5U			0.5U			4			0.5U		
cis-1,3-Dichloropropene	0.5U			0.5U			0.5U			0.5U			0.5U	J	G	0.5U			0.5U		
4-Methyl-2-pentanone	5U	J	F	5U			5U			5U			5U			5U	J	F	5U		
Toluene	0.3L	J	B	0.5U			0.5U			0.5U			0.5U			0.5U	J	G	6		
trans-1,3-Dichloropropene	0.5U			0.5U			0.5U			0.5U			0.5U	J	G	0.5U			0.5U		
1,1,2-Trichloroethane	0.5U			0.5U			0.5U			0.5U			0.5U	J	G	0.5U			0.5U		
Tetrachloroethene	0.5U			89		J	20			310		J	16			4	J	G	0.5U		
2-Hexanone	5U	J	F	5U			5U			5U			5U			5U	J	F	5U		
Dibromochloromethane	0.5U			0.5U			0.5U			0.5U			0.5U			12			0.5U		
1,2-Dibromoethane	0.5U			0.5U			0.5U			0.5U			0.5U			7			0.5U	J	F

ANALYTICAL RESULTS
Tier 3 Table 1A

Case No.: 30499 SDG No.: Y0GW6
Site: OMEGA RECOVERY SERV.
Lab: A4 SCIENTIFIC, INC.
Reviewer: DENISE MCCAFFREY, ESAT/LDC
Date: 08/07/2002

QUALIFIED DATA
Concentration in ug/L

Analysis Type: Low Level Water Samples
For Volatiles

Station Location:	GW202-MW09A-2004			GW202-MW09A-0032			GW202-MW09B-0054			GW202-MW06A-0042			GW202-MW10A-0057						GW202-MW03A-0042		
Sample ID:	Y0GP4 TB			Y0GP5			Y0GP6			Y0GP7			Y0GP8			Y0GW6 PE			Y0GN2MS		
Collection Date:	05/24/2002			05/24/2002			05/24/2002			05/24/2002			05/24/2002						05/21/2002		
Dilution Factor:	1.0			1.0			1.0			1.0			1.0			1.0			1.0		
Volatile Compound	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
Chlorobenzene	0.5U			0.5U			0.5U			0.5U			0.5U			25			6		
Ethylbenzene	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U	J	G	0.5U		
Xylenes (total)	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U	J	G	0.5U		
Styrene	0.5U	J	E	0.5U			0.5U			0.5U			0.5U			0.5U	J	EG	0.5U		
Bromoform	0.5U			0.5U			0.5U			0.5U			0.5U			21			0.5U		
Isopropylbenzene	0.5U	J	E	0.5U			0.5U			0.5U			0.5U			0.5U	J	EG	0.5U		
1,1,2,2-Tetrachloroethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
1,3-Dichlorobenzene	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
1,4-Dichlorobenzene	0.5U			0.5U			0.5U			0.5U			0.5U			9			0.5U		
1,2-Dichlorobenzene	0.5U			0.5U			0.5U			0.2L	J	B	0.5U			0.5U			0.5U		
1,2-Dibromo-3-chloropropane	0.5U	J	E	0.5U	J	F	0.5U	J	F	0.5U	J	F	0.5U	J	F	6	J	E	0.5U	J	F
1,2,4-Trichlorobenzene	0.5U			0.5U	J	F	0.5U	J	F	0.5U	J	F	0.5U	J	F	0.5U			0.5U		
1,2,3-Trichlorobenzene	0.5U	J	EF	0.5U	J	EF	0.5U	J	EF	0.5U	J	EF	0.5U	J	EF	0.5U	J	EF	0.5U	J	E

Val - Validity. Refer to Data Qualifiers in Table 1B.
Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.
CRQL - Contract Required Quantitation Limit, N/A - Not Applicable, NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank, TB - Trip Blank, BG - Background Sample
PE - Performance Evaluation Sample

ANALYTICAL RESULTS
Tier 3 Table 1A

Case No.: 30499 SDG No.: Y0GW6
Site: OMEGA RECOVERY SERV
Lab: A4 SCIENTIFIC, INC.
Reviewer: DENISE MCCAFFREY, ESAT/LDC
Date: 08/07/2002

QUALIFIED DATA
Concentration in ug/L

Analysis Type: Low Level Water Samples
For Volatiles

Station Location:	GW202-MW03A-0042			Method Blank			Method Blank			Method Blank			Method Blank			Method Blank			Method Blank		
Sample ID:	Y0GN2MSD			VBLKEI			VBLKEJ			VBLKEK			VBLKEL			VBLKEM			VBLKEN		
Collection Date:	05/21/2002																				
Dilution Factor:	1.0			1.0			1.0			1.0			1.0			1.0			1.0		
Volatile Compound	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
Dichlorodifluoromethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Chloromethane	0.5U			0.5U			0.5U			0.5U			0.5U	J	F	0.5U			0.5U		
Vinyl Chloride	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Bromomethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Chloroethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Trichlorofluoromethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
1,1-Dichloroethene	7		H	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
1,1,2-Trichloro-1,2,2-trifluoroethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Acetone	34U	J	CD	5U	J	D	5U	J	D	5U	J	D	5U	J	DF	5U	J	D	5U	J	D
Carbon Disulfide	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Methyl Acetate	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Methylene Chloride	3U	J	C	0.6			0.3L	J	B	0.4L	J	B	0.5U			0.2L	J	B	0.3L	J	B
trans-1,2-Dichloroethene	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Methyl tert-Butyl Ether	0.5U	J	F	0.5U	J	F	0.5U			0.5U	J	F	0.5U			0.5U			0.5U	J	F
1,1-Dichloroethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
cis-1,2-Dichloroethene	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
2-Butanone	5U			5U			5U	J	D	5U			5U	J	DF	5U	J	DF	5U	J	F
Bromochloromethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Chloroform	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
1,1,1-Trichloroethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Cyclohexane	0.5U			0.5U			0.5U	J	F	0.5U			0.5U	J	F	0.5U			0.5U		
Carbon Tetrachloride	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Benzene	7		H	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
1,2-Dichloroethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Trichloroethene	7		H	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Methylcyclohexane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
1,2-Dichloropropane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Bromodichloromethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
cis-1,3-Dichloropropene	0.5U			0.4L	J	B	0.5U			0.5U			0.5U			0.5U			0.4L	J	B
4-Methyl-2-pentanone	5U			5U			5U			5U			5U			5U			5U	J	F
Toluene	7		H	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
trans-1,3-Dichloropropene	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.3L	J	B
1,1,2-Trichloroethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Tetrachloroethene	0.2L	J	B	0.5U			0.5U			0.5U	J	F	0.5U			0.5U			0.5U		
2-Hexanone	5U			5U			5U			5U			5U			5U			5U		
Dibromochloromethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
1,2-Dibromoethane	0.5U	J	F	0.5U	J	F	0.5U			0.5U			0.5U			0.5U			0.5U		

ANALYTICAL RESULTS
Tier 3 Table 1A

Case No.: 30499 SDG No.: Y0GW6
Site: OMEGA RECOVERY SERV.
Lab: A4 SCIENTIFIC, INC.
Reviewer: DENISE MCCAFFREY, ESAT/LDC
Date: 08/07/2002

QUALIFIED DATA
Concentration in ug/L

Analysis Type: Low Level Water Samples
For Volatiles

Station Location:	GW202-MW03A-0042			Method Blank			Method Blank			Method Blank			Method Blank			Method Blank			Method Blank		
Sample ID:	Y0GN2MSD			VBLKEI			VBLKEJ			VBLKEK			VBLKEL			VBLKEM			VBLKEN		
Collection Date:	05/21/2002																				
Dilution Factor:	1.0			1.0			1.0			1.0			1.0			1.0			1.0		
Volatile Compound	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
Chlorobenzene	7		H	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Ethylbenzene	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Xylenes (total)	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Styrene	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Bromoform	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Isopropylbenzene	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
1,1,2,2-Tetrachloroethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
1,3-Dichlorobenzene	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
1,4-Dichlorobenzene	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
1,2-Dichlorobenzene	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
1,2-Dibromo-3-chloropropane	0.5U	J	F	0.5U	J	F	0.5U			0.5U			0.5U	J	F	0.5U	J	F	0.5U		
1,2,4-Trichlorobenzene	0.5U			0.5U			0.5U			0.5U			0.5U			0.4L	J	BF	0.5U		
1,2,3-Trichlorobenzene	0.5U	J	E	0.4L	J	BE	0.5U	J	E	0.5U	J	EF	0.5U	J	E	0.5L	J	BEF	0.5U	J	EF

Val - Validity. Refer to Data Qualifiers in Table 1B.
Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.
CRQL - Contract Required Quantitation Limit, N/A - Not Applicable, NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank, TB - Trip Blank, BG - Background Sample
PE - Performance Evaluation Sample

Case No.: 30499
Site: OMEGA RECOVERY SERV.
Lab: A4 SCIENTIFIC, INC.
Reviewer: DENISE MCCAFFREY, ESAT/LDC
Date: 08/07/2002

SDG No: Y0GW6

ANALYTICAL RESULTS
Tier 3 Table 1A

QUALIFIED DATA
Concentration in ug/L

Analysis Type: Low Level Water Samples For Volatiles

Station Location:	Method Blank			Storage Blank			CRQL														
Sample ID:	VBLK13			VHBLK01																	
Collection Date:																					
Dilution Factor:	1.0			1.0																	
Volatile Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Dichlorodifluoromethane	0.5U			0.5U			0.5														
Chloromethane	0.5U			0.5U			0.5														
Vinyl Chloride	0.5U			0.5U			0.5														
Bromomethane	0.5U			0.5U			0.5														
Chloroethane	0.5U			0.5U			0.5														
Trichlorofluoromethane	0.5U			0.5U			0.5														
1,1-Dichloroethene	0.5U			0.5U			0.5														
1,1,2-Trichloro-1,2,2-trifluoroethane	0.5U			0.5U			0.5														
Acetone	5U	J	DE	5U	J	D	5														
Carbon Disulfide	0.5U			0.5U			0.5														
Methyl Acetate	0.5U	J	E	0.5U			0.5														
Methylene Chloride	0.5U			0.5U			0.5														
trans-1,2-Dichloroethene	0.5U			0.5U			0.5														
Methyl tert-Butyl Ether	0.5U			0.5U			0.5														
1,1-Dichloroethane	0.5U			0.5U	J	F	0.5														
cis-1,2-Dichloroethene	0.5U			0.5U			0.5														
2-Butanone	5U			5U	J	DF	5														
Bromochloromethane	0.5U			0.5U			0.5														
Chloroform	0.5U			0.5U			0.5														
1,1,1-Trichloroethane	0.5U			0.5U			0.5														
Cyclohexane	0.5U			0.5U			0.5														
Carbon Tetrachloride	0.5U			0.5U			0.5														
Benzene	0.5U	J	F	0.5U			0.5														
1,2-Dichloroethane	0.5U			0.5U			0.5														
Trichloroethene	0.5U			0.5U			0.5														
Methylcyclohexane	0.5U			0.5U			0.5														
1,2-Dichloropropane	0.5U	J	F	0.5U			0.5														
Bromodichloromethane	0.5U			0.5U			0.5														
cis-1,3-Dichloropropene	0.5U			0.5U			0.5														
4-Methyl-2-pentanone	5U	J	F	5U	J	F	5														
Toluene	0.5U			0.5U			0.5														
trans-1,3-Dichloropropene	0.5U			0.5U			0.5														
1,1,2-Trichloroethane	0.5U			0.5U			0.5														
Tetrachloroethene	0.5U			0.5U			0.5														
2-Hexanone	5U	J	F	5U			5														
Dibromochloromethane	0.5U			0.5U			0.5														
1,2-Dibromoethane	0.5U			0.5U			0.5														

ANALYTICAL RESULTS
Tier 3 Table 1A

Case No.: 30499 SDG No : Y0GW6
Site: OMEGA RECOVERY SERV.
Lab: A4 SCIENTIFIC, INC
Reviewer: DENISE MCCAFFREY, ESAT/LDC
Date: 08/07/2002

QUALIFIED DATA
Concentration in ug/L

Analysis Type: Low Level Water Samples
For Volatiles

Station Location:	Method Blank			Storage Blank			CRQL														
Sample ID:	VBLK13			VHBLK01																	
Collection Date:																					
Dilution Factor:	1.0			1.0																	
Volatile Compound	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
Chlorobenzene	0.5U			0.5U			0.5														
Ethylbenzene	0.5U			0.5U			0.5														
Xylenes (total)	0.5U			0.5U			0.5														
Styrene	0.5U	J	E	0.5U			0.5														
Bromoform	0.5U			0.5U			0.5														
Isopropylbenzene	0.5U	J	E	0.5U			0.5														
1,1,2,2-Tetrachloroethane	0.5U			0.5U			0.5														
1,3-Dichlorobenzene	0.5U			0.5U			0.5														
1,4-Dichlorobenzene	0.5U			0.5U			0.5														
1,2-Dichlorobenzene	0.5U			0.5U			0.5														
1,2-Dibromo-3-chloropropane	0.5U	J	E	0.5U			0.5														
1,2,4-Trichlorobenzene	0.5U			0.5U			0.5														
1,2,3-Trichlorobenzene	0.5U	J	EF	0.5U	J	EF	0.5														

Val - Validity. Refer to Data Qualifiers in Table 1B.
Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.
CRQL - Contract Required Quantitation Limit, N/A - Not Applicable, NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank, TB - Trip Blank, BG - Background Sample
PE - Performance Evaluation Sample

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR ORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared according to the document, "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review," February 1994.

U The analyte was analyzed for but was not detected above the reported sample quantitation limit.

L Indicates results which fall below the Contract Required Quantitation Limit. Results are estimated and are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of detection.

J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

Table 2
Calibration Summary

Case No.: 30499 SDG No.: Y0GW6
Site: Omega Chem OU-2
Laboratory: A4 Scientific, Inc.
Reviewer: Denise McCaffrey, ESAT/LDC
Date: August 7, 2002

RELATIVE RESPONSE FACTORS

	$\overline{RRF}$	$\overline{RRF}$	RRF	RRF	RRF	RRF	RRF
Analysis Date:	05/22/02	05/26/02	06/03/02	05/31/02	06/01/02	06/02/02	06/03/02
Analysis Time:	0909-1158	1129-1505	0937	1240	1429	1117	1135
GC/MS I.D.:	C-5973	E-5973	C-5973	E-5973	E-5973	E-5973	E-5973
Analyte	Init.	Init.	Cont.	Cont.	Cont.	Cont.	Cont.
Acetone	0.046	----	----	0.041	0.037	0.036	0.033
Methyl Acetate	----	----	----	----	----	0.049	----
2-Butanone	0.041	----	----	----	0.047	----	0.041
2-Butanone-d5	0.029	0.038	0.036	0.037	0.032	0.036	0.032
2-Hexanone-d5	0.025	0.046	0.025	0.035	0.040	0.037	0.033

Analysis Date:	RRF 06/04/02	RRF 06/05/02
Analysis Time:		
GC/MS I.D.:	E-5973	E-5973
Analyte	Cont.	Cont.
Acetone	0.036	0.035
2-Butanone	0.037	0.039
2-Butanone-d5	0.030	0.028
2-Hexanone-d5	0.033	0.024

PERCENT RELATIVE STANDARD DEVIATIONS

	%RSD	%RSD
Analysis Date:	05/22/02	05/26/02
Analysis Time:	0909-1158	1129-1505
GC/MS I.D.:	C-5973	E-5973
Analyte	Init.	Init.
Acetone	35.7	----
Methyl Acetate	31.4	----
Styrene	37.0	----
Isopropylbenzene	40.1	----
1,2-Dibromo-3-chloropropane	43.4	----
1,2,3-Trichlorobenzene	39.0	39.7
1,2-Dichlorobenzene-d4	32.1	----

Table 2
Calibration Summary

PERCENT DIFFERENCES

	%D	%D	%D	%D	%D
Analysis Date:	06//03/02	05/31/02	06/01/02	06/02/02	06/03/02
Analysis Time:	0937	1240	1429	1117	1135
GC/MS I.D.:	C-5973	E-5973	E-5973	E-5973	E-5973
Analyte	Cont.	Cont.	Cont.	Cont.	Cont.
Chloromethane	----	----	----	----	+41.7
Acetone	----	----	----	----	-34.0
Methyl tert-butyl ether	----	-35.0	----	-30.2	----
2-Butanone	----	----	----	----	-30.5
Cyclohexane	----	----	+33.3	----	+35.0
Benzene	+35.2	----	----	----	----
1,2-Dichloropropane	+31.3	----	----	----	----
4-Methyl-2-pentanone	+33.6	----	----	----	----
Tetrachloroethene	----	----	----	+56.0	----
2-Hexanone	+37.3	----	----	----	----
1,2-Dibromoethane	----	-33.0	----	----	----
1,2-Dibromo-3-chloropropane	----	-37.0	----	----	-30.3
1,2,3-Trichlorobenzene	-32.3	----	----	-31.9	----
Vinyl Chloride-d3	+87.8	+137.3	+105.6	+115.5	+178.5
Chloroethane-d5	+69.0	+45.5	+41.1	+37.3	+82.8
1,1-Dichloroethene-d2	----	----	----	----	+39.8
Benzene-d6	+32.7	----	----	+32.1	+61.7
1,2-Dichloropropane-d6	+32.2	----	----	----	+37.0
Toluene-d8	----	----	----	----	+50.1

	%D	%D
Analysis Date:	06//04/02	06/05/02
Analysis Time:	0945	1015
GC/MS I.D.:	C-5973	E-5973
Analyte	Cont.	Cont.
Methyl tert-butyl ether	----	-32.8
2-Butanone	-37.3	-33.9
4-Methyl-2-pentanone	----	-31.3
1,2-Dibromo-3-chloropropane	-33.3	----
1,2,4-Trichlorobenzene	-32.1	----
1,2,3-Trichlorobenzene	-37.4	-34.6
Vinyl Chloride-d3	+106.0	+112.9
Chloroethane-d5	+44.5	+40.7
Benzene-d6	+62.1	+42.1
1,2-Dichloropropane-d6	+35.3	----
Toluene-d8	+53.1	+32.9
2-Hexanone-d5	----	-47.8

- = biased low ; + = biased high

Table 2
Calibration Summary

ASSOCIATED SAMPLES AND METHOD BLANKS

Init. 05/22/02 :	Y0GP4, Y0GP5DL, Y0GP6DL, Y0GP7DL, Y0GW6, and method blank VBLK13
Init. 05/26/02:	Y0GN0, Y0GN0DL, Y0GN1, Y0GN2, Y0GN3, Y0GN3DL, Y0GN4, Y0GN5, Y0GN5DL, Y0GN6, Y0GN6DL, Y0GN7, Y0GN7DL, Y0GN8, Y0GN9, Y0GP0, Y0GP1, Y0GP1DLL, Y0GP2, Y0GP2DL, Y0GP3, Y0GP3DL, Y0GP5, T0GP6, Y0GP7, Y0GP8, Y0GN2MS, Y0GN2MSD, storage blank VHBLK01, and method blanks VBLKEI, VBLKEJ, VBLKEK, VBLKEL, VBLKEM, and VBLKEN
Cont. 06/03/02 (C-5973):	Y0GP4, Y0GP5DL, Y0GP6DL, Y0GP7DL, Y0GW6, and method blank VBLK13
Cont. 05/31/02:	Y0GN2, Y0GN2MS, Y0GN2MSD, Y0GN3DL, Y0GN4, Y0GP0, Y0GP3, and method blank VBLKEI
Cont. 06/01/02:	Y0GN0, Y0GN0DL, Y0GN1, Y0GN3, and method blank VBLKEJ
Cont. 06/02/02:	Y0GN5, Y0GN5DL, Y0GN6, Y0GN6DL, Y0GN7, Y0GN7DL, Y0GN8, Y0GN9, Y0GP3DL, and method blank VBLKEK
Cont. 06/03/02 (E-5973):	Y0GP1, Y0GP1DL, Y0GP2, Y0GP2DL, and method blank VBLKEL
Cont. 06/04/02:	Y0GP5, Y0GP6, Y0GP7, Y0GP8, and method blank VBLKEM
Cont. 06/05/02:	storage blank VHBLK01 and method blank VBLKEN

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LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS

DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Y0GN2

Lab Name: A4 SCIENTIFIC, INC. Contract: 68-W-01-038

Lab Code: A4 Case No.: 30499 Client No.: SDG No.: Y0GW6

Lab Sample ID: 1626.003 Date Received: 05/22/2002

Lab File ID: E0172 Date Analyzed: 05/31/2002

Purge Volume: 25 (ML) Dilution Factor: 1.0

GC Column: RTX-624 ID: 0.32 (MM) Length: 60 (M)

Number TICs found: 2

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (UG/L)	Q
01		UNKNOWN	3.93	0.62	J
02		UNKNOWN	6.46	1.9	J
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
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21					
22					
23					
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25					
26					
27					
28					
29					
30					

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LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
Y0GW6

Lab Name: A4 SCIENTIFIC, INC. Contract: 68-W-01-038

Lab Code: A4 Case No.: 30499 Client No.: SDG No.: Y0GW6

Lab Sample ID: 1622.002 Date Received: 05/21/2002

Lab File ID: C5645 Date Analyzed: 06/03/2002

Purge Volume: 25 (ML) Dilution Factor: 1.0

GC Column: RTX-624 ID: 0.32 (MM) Length: 60 (M)

Number TICs found: 1

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (UG/L)	Q
01		UNKNOWN	5.90	23	J
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
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30					